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PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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| NEWS         | 3  | OCT 23 | The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded   |
| NEWS         | 4  | OCT 30 | CHEMLIST enhanced with new search and display field  |
| NEWS         | 5  | NOV 03 | JAPIO enhanced with IPC 8 features and functionality   |
| NEWS         | 6  | NOV 10 | CA/CAPLUS F-Term thesaurus enhanced  |
| NEWS         | 7  | NOV 10 | STN Express with Discover! free maintenance release Version 8.01c now available  |
| NEWS         | 8  | NOV 20 | CA/CAPLUS to MARPAT accession number crossover limit increased to 50,000   |
| NEWS         | 9  | DEC 01 | CAS REGISTRY updated with new ambiguity codes  |
| NEWS         | 10 | DEC 11 | CAS REGISTRY chemical nomenclature enhanced  |
| NEWS         | 11 | DEC 14 | WPIDS/WPINDEX/WPIX manual codes updated  |
| NEWS         | 12 | DEC 14 | GBFULL and FRFULL enhanced with IPC 8 features and functionality   |
| NEWS         | 13 | DEC 18 | CA/CAPLUS pre-1967 chemical substance index entries enhanced with preparation role   |
| NEWS         | 14 | DEC 18 | CA/CAPLUS patent kind codes updated  |
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| NEWS         | 17 | DEC 27 | CA/CAPLUS enhanced with more pre-1907 records  |
| NEWS         | 18 | JAN 08 | CHEMLIST enhanced with New Zealand Inventory of Chemicals  |
| NEWS         | 19 | JAN 16 | CA/CAPLUS Company Name Thesaurus enhanced and reloaded   |
| NEWS         | 20 | JAN 16 | IPC version 2007.01 thesaurus available on STN   |
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|              |    |        |  |
| NEWS EXPRESS |    |        | NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006. |
|              |    |        |  |
| NEWS HOURS   |    |        | STN Operating Hours Plus Help Desk Availability  |
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| NEWS IPC8    |    |        | For general information regarding STN implementation of IPC 8  |
| NEWS X25     |    |        | X.25 communication option no longer available  |

Enter NEWS followed by the item number or name to see news on that specific topic.

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\*\*\*\*\* STN Columbus \*\*\*\*\*

FILE 'HOME' ENTERED AT 13:28:12 ON 12 FEB 2007

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 13:28:22 ON 12 FEB 2007

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STRUCTURE FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

DICTIONARY FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

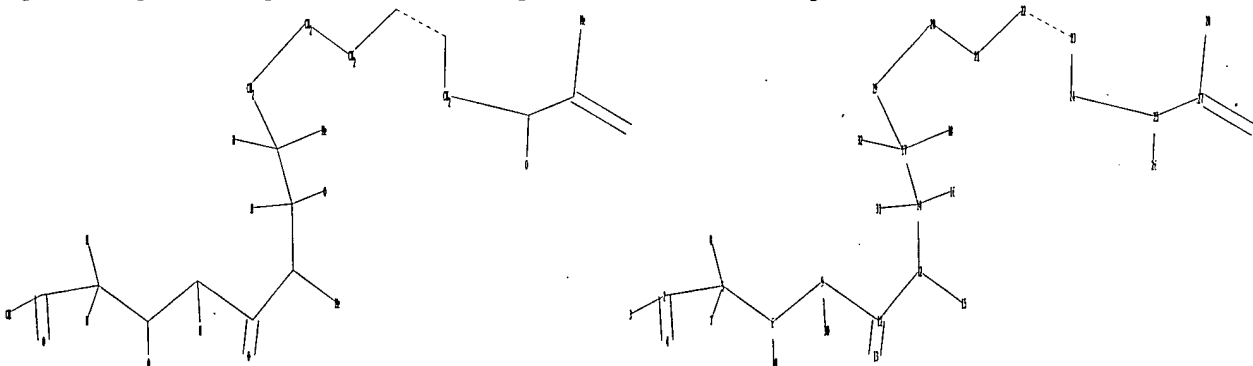
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10538200g.str



chain nodes :

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
25 26 27 28 29 30 31 32

chain bonds :

2-3 2-4 2-5 5-6 5-7 5-8 6-9 6-10 9-11 9-30 11-12 11-13 12-14 12-15  
14-16 14-17 14-31 17-18 17-19 17-32 19-20 20-21 21-22 22-23 23-24 24-25  
25-26 25-27 27-28 27-29

exact/norm bonds :

6-10 11-13 14-16 22-23 25-26

exact bonds :

2-5 5-6 5-7 5-8 6-9 9-11 9-30 11-12 12-14 12-15 14-17 14-31 17-18  
17-19 17-32 19-20 20-21 21-22 23-24 24-25 25-27 27-28 27-29

normalized bonds :

2-3 2-4

G1:H,C

Match level :

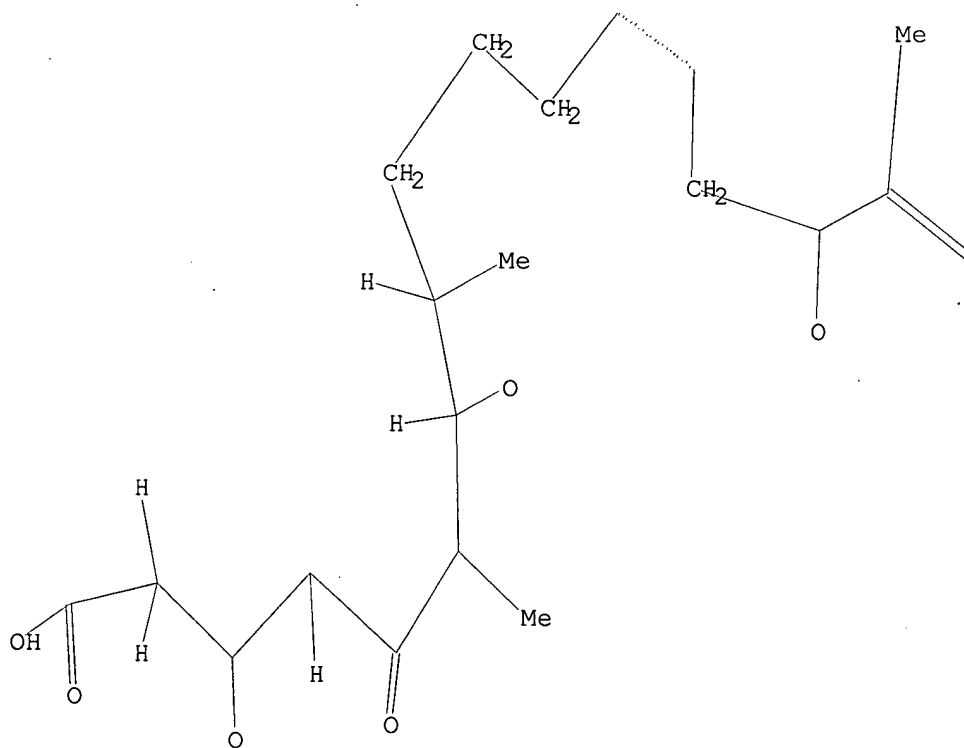
2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS  
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS  
19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS  
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS

L1 STRUCTURE UPLOADED

=> d 11

L1 HAS NO ANSWERS

L1 STR



G1 H,C

Structure attributes must be viewed using STN Express query preparation.

=> s 11

SAMPLE SEARCH INITIATED 13:28:46 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 38 TO ITERATE

100.0% PROCESSED 38 ITERATIONS

SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 391 TO 1129  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 13:28:50 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 891 TO ITERATE

100.0% PROCESSED 891 ITERATIONS  
SEARCH TIME: 00.00.01

0 ANSWERS

L3 0 SEA SSS FUL L1

=> log y

COST IN U.S. DOLLARS

SINCE FILE  
ENTRY

TOTAL  
SESSION

FULL ESTIMATED COST

172.10

172.31

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 12:54:23 ON 12 FEB 2007

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DICTIONARY FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

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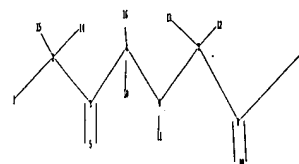
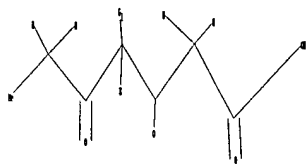
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=>

Uploading C:\Program Files\Stnexp\Queries\10538200d.str

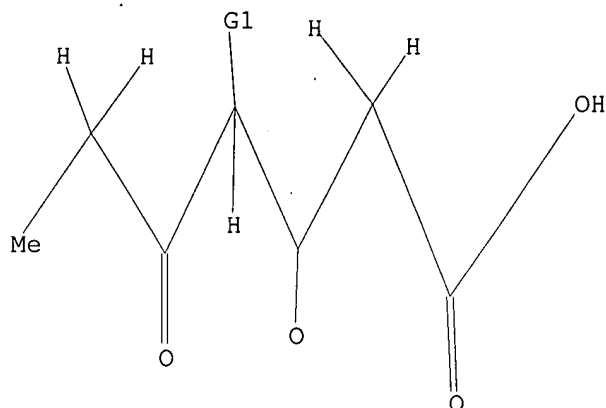


chain nodes :  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18  
 chain bonds :  
 1-2 2-3 2-14 2-15 3-4 3-5 4-6 4-16 4-18 6-7 6-11 7-8 7-12 7-13 8-9  
 8-10  
 exact/norm bonds :  
 3-5 4-16 6-11  
 exact bonds :  
 1-2 2-3 2-14 2-15 3-4 4-6 4-18 6-7 7-8 7-12 7-13  
 normalized bonds :  
 8-9 8-10

G1:H,C

Match level :  
 1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS  
 10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 18:CLASS

=> d l1  
L1 HAS NO ANSWERS  
L1 STR



G1 H,C

.. Structure attributes must be viewed using STN Express query preparation.

=> s l1  
SAMPLE SEARCH INITIATED 12:54:59 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 5556 TO ITERATE

36.0% PROCESSED 2000 ITERATIONS 0 ANSWERS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 106651 TO 115589  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full  
FULL SEARCH INITIATED 12:55:04 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 110520 TO ITERATE

100.0% PROCESSED 110520 ITERATIONS 3 ANSWERS  
SEARCH TIME: 00.00.02

L3 3 SEA SSS FUL L1

=> file caplus  
COST IN U.S. DOLLARS SINCE FILE TOTAL  
ENTRY SESSION  
FULL ESTIMATED COST 172.10 172.31

FILE 'CAPLUS' ENTERED AT 12:55:10 ON 12 FEB 2007  
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FILE COVERS 1907 - 12 Feb 2007 VOL 146 ISS 8  
FILE LAST UPDATED: 11 Feb 2007 (20070211/ED)

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<http://www.cas.org/infopolicy.html>

=> s l3 full

L4 2 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:1068138 CAPLUS

DOCUMENT NUMBER: 142:197448

TITLE: Highly Efficient Nickel-Catalyzed Cross-Coupling of Succinic and Glutaric Anhydrides with Organozinc Reagents

AUTHOR(S): Bercot, Eric A.; Rovis, Tomislav

CORPORATE SOURCE: Department of Chemistry, Colorado State University, Fort Collins, CO, 80523, USA

SOURCE: Journal of the American Chemical Society (2005), 127(1), 247-254

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:197448

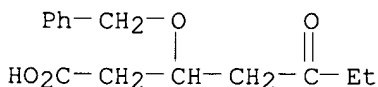
AB A nickel-catalyzed alkylation of succinic and glutaric anhydrides with alkyl- and arylzinc reagents has been developed. A dramatic olefin effect has been investigated resulting in the identification of several styrene-based promoters which show pronounced enhancements in reaction rate. The substrate scope with respect to electrophilic and nucleophilic coupling partners has been examined and found to be remarkably broad, allowing for rapid introduction of mol. complexity through the use of functionalized coupling partners. Regioselective alkylation of an unsym. succinic anhydride and a profound effect of pendent coordinating olefins on reaction rate suggest a mechanism involving discrete oxidative addition of the nickel complex into the cyclic anhydride followed by a transmetalation event.

IT 838906-37-9P 838906-40-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(alkylation on nickel-catalyzed cross-coupling of succinic and glutaric anhydrides with organozinc reagents)

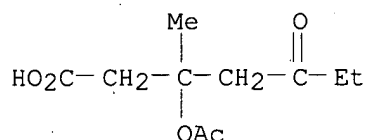
RN 838906-37-9 CAPLUS

CN Heptanoic acid, 5-oxo-3-(phenylmethoxy)- (9CI) (CA INDEX NAME)



RN 838906-40-4 CAPLUS

CN Heptanoic acid, 3-(acetyloxy)-3-methyl-5-oxo- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:550960 CAPLUS

DOCUMENT NUMBER: 141:106321

TITLE: Preparation of epothilone derivatives for use in pharmaceutical compositions as antitumor agents

INVENTOR(S): Denni-Dischert, Donatienne; Floersheimer, Andreas; Kuesters, Ernst; Oberer, Lukas; Sedelmeier, Gottfried

PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Novartis Pharma G.m.b.H.

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE       |
|---|------|----------|------------------|------------|
| WO 2004056832   | A2   | 20040708 | WO 2003-EP14747  | 20031222   |
| WO 2004056832   | A3   | 20040910 |                  |            |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, SY, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW |      |          |                  |            |
| RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR  |      |          |                  |            |
| CA 2510620  | A1   | 20040708 | CA 2003-2510620  | 20031222   |
| AU 2003294938   | A1   | 20040714 | AU 2003-294938   | 20031222   |
| EP 1581536  | A2   | 20051005 | EP 2003-785920   | 20031222   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                  |            |
| BR 2003017693   | A    | 20051122 | BR 2003-17693    | 20031222   |
| CN 1732172  | A    | 20060208 | CN 2003-80107416 | 20031222   |
| JP 2006514025   | T    | 20060427 | JP 2004-561416   | 20031222   |
| US 2006014796   | A1   | 20060119 | US 2005-538200   | 20050609   |
| PRIORITY APPLN. INFO.:  |      |          | GB 2002-30024    | A 20021223 |
|   |      |          | WO 2003-EP14747  | W 20031222 |

OTHER SOURCE(S): MARPAT 141:106321

GI

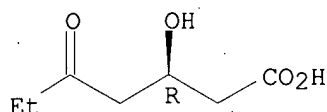
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB C4-demethyl-epothilones or C4-bisnor-epothilones, such as I [R1, R7 = H, alkyl; R2 = nitrogen containing heteroaryl; R3 = H, Me; X = O, NR7; Z = O, bond], were prepared via fermentation and organic synthesis for use in pharmaceutical compns. as antitumor agents. Thus, C4-bisnor-epothilone B II (R3 = H) was prepared via an aldol condensation of aldehyde III with in situ disilylated (3R)-3-hydroxy-5-oxoheptanoic acid followed by a

desilylation/macrolactonization reaction sequence. Also, C4-demethyl-epothilone B II (R = Me) was prepared directly by a fermentation process. The prepared epothilones were assayed for efficacy against human KB-31 and KB-8511 carcinoma cells. Drug delivery formulations containing the prepared epothilones were presented.

IT 717917-50-5, (3R)-3-Hydroxy-5-oxoheptanoic acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of epothilone derivs. via fermentation and organic synthesis for use in pharmaceutical compns. as antitumor agents)  
 RN 717917-50-5 CAPLUS  
 CN Heptanoic acid, 3-hydroxy-5-oxo-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d his

(FILE 'HOME' ENTERED AT 12:54:12 ON 12 FEB 2007)

FILE 'REGISTRY' ENTERED AT 12:54:23 ON 12 FEB 2007

L1 STRUCTURE UPLOADED  
 L2 0 S L1  
 L3 3 S L1 FULL

FILE 'CAPLUS' ENTERED AT 12:55:10 ON 12 FEB 2007

L4 2 S L3 FULL

=> log y

|  |                  |               |
|--|------------------|---------------|
| COST IN U.S. DOLLARS                       | SINCE FILE ENTRY | TOTAL SESSION |
| FULL ESTIMATED COST                        | 11.48            | 183.79        |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
| CA SUBSCRIBER PRICE                        | -1.56            | -1.56         |

STN INTERNATIONAL LOGOFF AT 12:56:07 ON 12 FEB 2007

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| NEWS IPC8    | For general information regarding STN implementation of IPC 8  |        |  |
| NEWS X25     | X.25 communication option no longer available  |        |  |

Enter NEWS followed by the item number or name to see news on that specific topic.

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 14:18:46 ON 12 FEB 2007

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

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STRUCTURE FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

DICTIONARY FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

New CAS Information Use Policies, enter HELP.USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

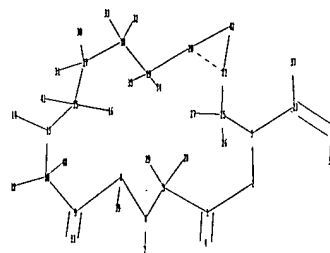
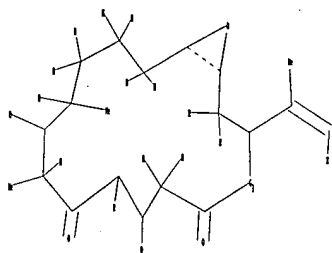
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10538200h.str



chain nodes :

4 7 11 12 14 16 23 24 26 27 28 29 30 31 32 33 34 35 36 37 39  
40 41

ring nodes :

1 2 3 5 6 8 9 10 13 15 17 18 19 20 21 25 42

chain bonds :

1-4 3-23 5-28 5-29 6-7 8-39 9-11 10-12 10-40 13-14 15-16 15-41 17-30  
17-31 18-32 18-33 19-34 19-35 23-24 23-37 24-36 25-26 25-27

ring bonds :

1-2 1-5 2-3 3-25 5-6 6-8 8-9 9-10 10-13 13-15 15-17 17-18 18-19 19-20  
20-21 20-42 21-25 21-42

exact/norm bonds :

1-2 1-4 1-5 2-3 3-23 3-25 5-6 5-28 5-29 6-7 6-8 8-9 8-39 9-10 9-11  
10-12 10-13 10-40 13-14 13-15 15-16 15-17 15-41 17-18 17-30 17-31 18-19  
18-32 18-33 19-20 19-34 19-35 20-21 20-42 21-25 21-42 23-24 23-37 24-36  
25-26 25-27

isolated ring systems :

containing 1 :

G1:O,N

Match level :

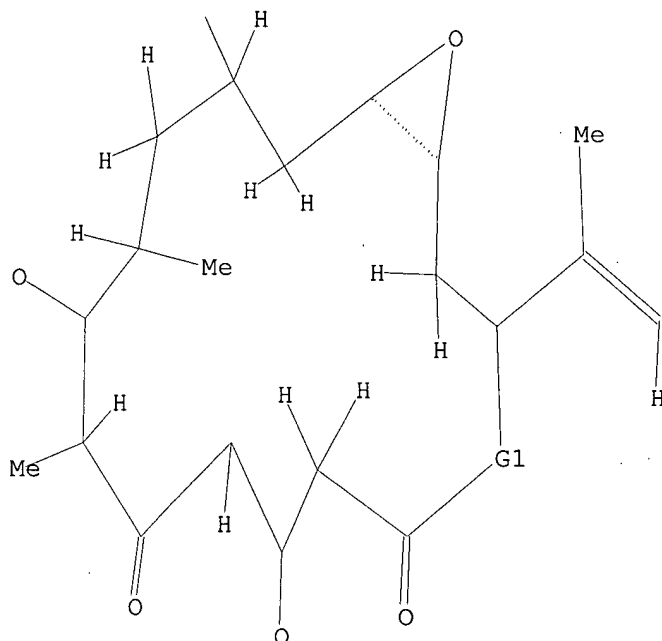
1:Atom 2:Atom 3:Atom 4:CLASS 5:Atom 6:Atom 7:CLASS 8:Atom 9:Atom 10:Atom  
 11:CLASS 12:CLASS 13:Atom 14:CLASS 15:Atom 16:CLASS 17:Atom 18:Atom 19:Atom  
 20:Atom 21:Atom 23:CLASS 24:CLASS 25:Atom 26:CLASS 27:CLASS 28:CLASS  
 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS  
 37:CLASS 39:CLASS 40:CLASS 41:CLASS 42:Atom

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 O,N

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 14:19:36 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 101 TO ITERATE

100.0% PROCESSED 101 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 1418 TO 2622

PROJECTED ANSWERS: 1 TO 80

L2 1 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 14:19:41 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1860 TO ITERATE

100.0% PROCESSED 1860 ITERATIONS

9 ANSWERS

SEARCH TIME: 00.00.01

L3 9 SEA SSS FUL L1

=> file caplu

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST  | 172.10           | 172.31        |

FILE 'CAPLUS' ENTERED AT 14:19:46 ON 12 FEB 2007  
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FILE LAST UPDATED: 11 Feb 2007 (20070211/ED)

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|----------------------|------------------|---------------|
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FILE COVERS 1907 - 12 Feb 2007 VOL 146 ISS 8  
FILE LAST UPDATED: 11 Feb 2007 (20070211/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

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=> s l3 full

L4 6 L3

=> d ibib abs histr tot

'HISTR' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'



The following are valid formats:

ABS ----- GI and AB  
ALL ----- BIB, AB, IND, RE  
APPS ----- AI, PRAI  
BIB ----- AN, plus Bibliographic Data and PI table (default)  
CAN ----- List of CA abstract numbers without answer numbers  
CBIB ----- AN, plus Compressed Bibliographic Data  
CLASS ----- IPC, NCL, ECLA, FTERM  
DALL ----- ALL, delimited (end of each field identified)  
DMAX ----- MAX, delimited for post-processing  
FAM ----- AN, PI and PRAI in table, plus Patent Family data  
FBIB ----- AN, BIB, plus Patent FAM  
IND ----- Indexing data  
IPC ----- International Patent Classifications  
MAX ----- ALL, plus Patent FAM, RE  
PATS ----- PI, SO  
SAM ----- CC, SX, TI, ST, IT  
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;  
SCAN must be entered on the same line as the DISPLAY,  
e.g., D SCAN or DISPLAY SCAN)  
STD ----- BIB, CLASS  
  
IABS ----- ABS, indented with text labels  
IALL ----- ALL, indented with text labels  
IBIB ----- BIB, indented with text labels  
IMAX ----- MAX, indented with text labels  
ISTD ----- STD, indented with text labels  
  
OBIB ----- AN, plus Bibliographic Data (original)  
OIBIB ----- OBIB, indented with text labels  
  
SBIB ----- BIB, no citations  
SIBIB ----- IBIB, no citations  
  
HIT ----- Fields containing hit terms  
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)  
containing hit terms  
HITRN ----- HIT RN and its text modification  
HITSTR ----- HIT RN, its text modification, its CA index name, and  
its structure diagram  
HITSEQ ----- HIT RN, its text modification, its CA index name, its  
structure diagram, plus NTE and SEQ fields  
FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
its structure diagram  
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its  
structure diagram, plus NTE and SEQ fields  
KWIC ----- Hit term plus 20 words on either side  
OCC ----- Number of occurrence of hit term and field in which it occurs

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ENTER DISPLAY FORMAT (BIB):kwic

252981-50-3P, 21-Hydroxy epothilone D 377085-95-5P, 11-Hydroxy  
epothilone D 502619-64-9P, 14-Hydroxy epothilone D 502619-65-0P  
860300-13-6P 860300-22-7P 860300-23-8P 860300-27-2P

RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL  
(Biological study); PREP (Preparation); USES (Uses)

(production of epothilones derivs. in Myxococcus or Sorangium comprising  
PKS mutant gene)

IT 860300-09-0P 860300-10-3P 860300-11-4P 860300-12-5P  
860300-14-7P 860300-15-8P 860300-16-9P 860300-17-0P 860300-18-1P  
860300-19-2P 860300-20-5P 860300-21-6P 860300-24-9P  
860300-25-0P 860300-26-1P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological  
study); PREP (Preparation); USES (Uses)

(production of epothilones derivs. in Myxococcus or Sorangium comprising  
PKS mutant gene)

L4 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

IT 502619-65-0P

RL: BPN (Biosynthetic preparation); PAC (Pharmacological activity); PUR  
(Purification or recovery); THU (Therapeutic use); BIOL (Biological  
study); PREP (Preparation); USES (Uses)

(preparation of epothilone derivs. via fermentation and organic synthesis  
for use in  
pharmaceutical compns. as antitumor agents)

IT 279226-56-1P 717917-46-9P 717917-47-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(preparation of epothilone derivs. via fermentation and organic synthesis  
for use in  
pharmaceutical compns. as antitumor agents)

L4 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

IT 152044-53-6 184297-59-4 186692-73-9 188259-95-2 188260-09-5  
188260-10-8 198475-04-6 198475-08-0 198571-00-5 198571-09-4  
219824-30-3 219824-31-4 219989-84-1 252981-50-3 371979-40-7, Epo  
490 371979-46-3 377085-95-5 491611-01-9 497222-95-4 497222-97-6  
502619-64-9 502619-65-0 666739-87-3 666739-88-4

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL  
(Biological study); USES (Uses)

(synthesis of epothilones for use in pharmaceutical compns. for the  
treatment of cancer)

L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

IT 152044-53-6P, Epothilone A 184297-59-4P 186692-73-9P, Desoxyepothilone  
A 188259-95-2P 188260-09-5P 188260-10-8P 198571-00-5P  
198571-09-4P 201136-88-1P 220776-42-1P 350493-61-7P 502619-61-6P  
502619-63-8P 502619-64-9P 502619-65-0P

RL: PAC (Pharmacological activity); PNU (Preparation, unclassified); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(prepn of epothilones for therapeutic use as anticancer agents)

L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

IT 152044-53-6P, Epothilone A 152044-54-7P, Epothilone b 186692-73-9P,  
Epothilone C 189453-10-9P, Epothilone D 192370-82-4P, Epothilone C4  
198475-12-6P, Epothilone H1 198570-99-9P, Epothilone G1 198571-00-5P,  
Epothilone G2 198571-09-4P, Epothilone H2 201049-37-8P, Epothilone E  
204918-15-0P, Epothilone I1 208518-52-9P, Epothilone F  
252917-29-6P, Epothilone A1 252917-30-9P, Epothilone A2  
252917-31-0P 252917-32-1P 252917-33-2P, Epothilone B10 252917-34-3P,  
Epothilone C1 252917-35-4P, Epothilone D1 252917-36-5P, Epothilone C2  
252917-37-6P, Epothilone D2 252917-38-7P, Epothilone C3 252917-39-8P,  
Epothilone C5 252917-40-1P, Epothilone D5 252917-42-3P, Epothilone C6  
252917-44-5P, Epothilone C7 252917-46-7P, Epothilone C8 252917-47-8P,

Epothilone C9 252917-48-9P, trans-Epothilone C1 252917-49-0P,  
trans-Epothilone C2 252917-50-3P, Epothilone I2 252917-51-4P,  
Epothilone I3 252917-52-5P, Epothilone I4 252917-53-6P, Epothilone I5  
252917-54-7P, Epothilone I6 252917-55-8P 252917-56-9P 354817-88-2P  
354817-89-3P 354817-90-6P 354817-91-7P 354985-89-0P  
RL: BPN (Biosynthetic preparation); PRP (Properties); PUR (Purification or  
recovery); BIOL (Biological study); PREP (Preparation)  
(new natural epothilones from Sorangium cellulosum)

L4 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN  
IT 192370-82-4P, Epothilone C4 198475-12-6P, Epothilone H1 198570-99-9P,  
Epothilone G1 198571-00-5P, Epothilone G2 198571-09-4P, Epothilone H2  
204918-15-0P, Epothilone I1 252917-29-6P, Epothilone A1  
252917-30-9P, Epothilone A2 252917-31-0P, Epothilone A8  
252917-32-1P, Epothilone A9 252917-33-2P, Epothilone B10 252917-34-3P,  
Epothilone C1 252917-35-4P, Epothilone D1 252917-36-5P, Epothilone C2  
252917-37-6P, Epothilone D2 252917-38-7P, Epothilone C3 252917-39-8P,  
Epothilone C5 252917-40-1P, Epothilone D5 252917-42-3P, Epothilone C6  
252917-44-5P, Epothilone C7 252917-46-7P, Epothilone C8 252917-47-8P,  
Epothilone C9 252917-48-9P, trans-Epothilone C1 252917-49-0P,  
trans-Epothilone C2 252917-50-3P, Epothilone I2 252917-51-4P,  
Epothilone I3 252917-52-5P, Epothilone I4 252917-53-6P, Epothilone I5  
252917-54-7P, Epothilone I6 252917-55-8P, Epothilone K 252917-56-9P  
252917-57-0P 252917-58-1P  
RL: BAC (Biological activity or effector, except adverse); BOC (Biological  
occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR  
(Purification or recovery); BIOL (Biological study); OCCU (Occurrence);  
PREP (Preparation)  
(epothilone minor constituents)

=> d ibib abs.hitstr tot

L4 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:460208 CAPLUS  
DOCUMENT NUMBER: 143:171398  
TITLE: Production of epothilones derivatives in Myxococcus or  
Sorangium comprising PKS mutant gene  
INVENTOR(S): Qiu, Rongguo  
PATENT ASSIGNEE(S): Beijing Huahao Zhongtian Biotechnology Co., Ltd.,  
Peop. Rep. China  
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, No pp.  
given  
CODEN: CNXXEV  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND  | DATE     | APPLICATION NO. | DATE     |
|------------------------|-------|----------|-----------------|----------|
| -----                  | ----- | -----    | -----           | -----    |
| CN 1521258             | A     | 20040818 | CN 2003-103031  | 20030128 |
| PRIORITY APPLN. INFO.: |       |          | CN 2003-103031  | 20030128 |

OTHER SOURCE(S): MARPAT 143:171398

AB Described is a method for production of epothilones derivs. in Myxococcus or  
Sorangium comprising PKS mutant gene. The invention also relates to the  
uses of these compds. in preparing medicine composition for treating tumor,  
inhibiting cell proliferation and growth.

IT 502619-65-0P 860300-22-7P

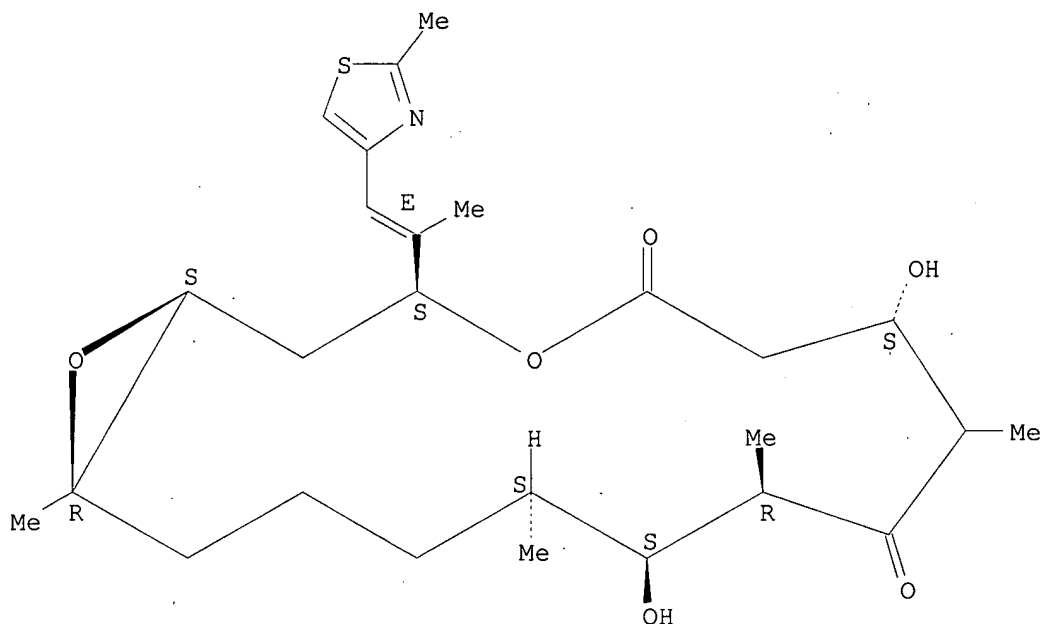
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(production of epothilones derivs. in Myxococcus or Sorangium comprising  
PKS mutant gene)

RN 502619-65-0 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12,16-

tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-,  
(1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

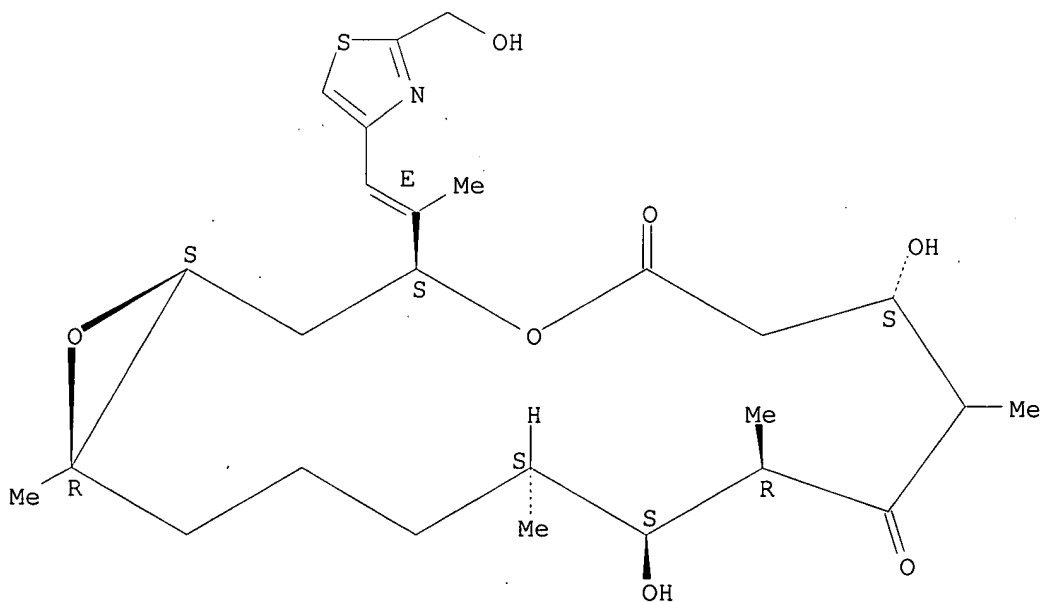
Absolute stereochemistry.  
Double bond geometry as shown.



RN 860300-22-7 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-3-[(1E)-2-  
[2-(hydroxymethyl)-4-thiazolyl]-1-methylethenyl]-8,10,12,16-tetramethyl-,  
(1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



IT 860300-10-3P 860300-19-2P 860300-21-6P  
860300-25-0P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological  
study); PREP (Preparation); USES (Uses)

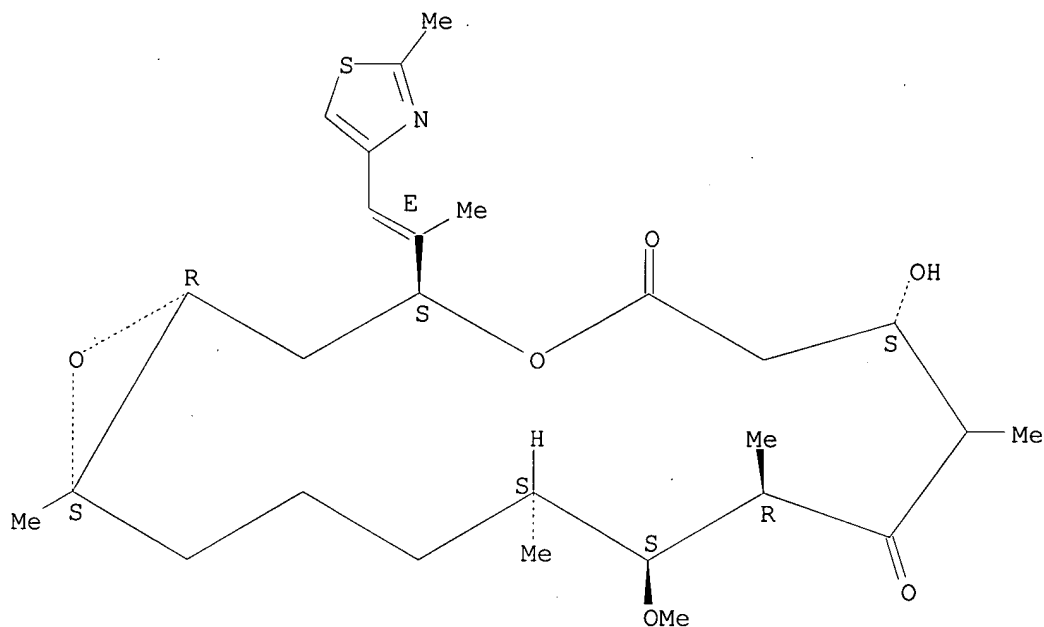
(production of epothilones derivs. in Myxococcus or Sorangium comprising  
PKS mutant gene)

RN 860300-10-3 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7-hydroxy-11-methoxy-  
8,10,12,16-tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-,  
(1R,3S,7S,10R,11S,12S,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown..

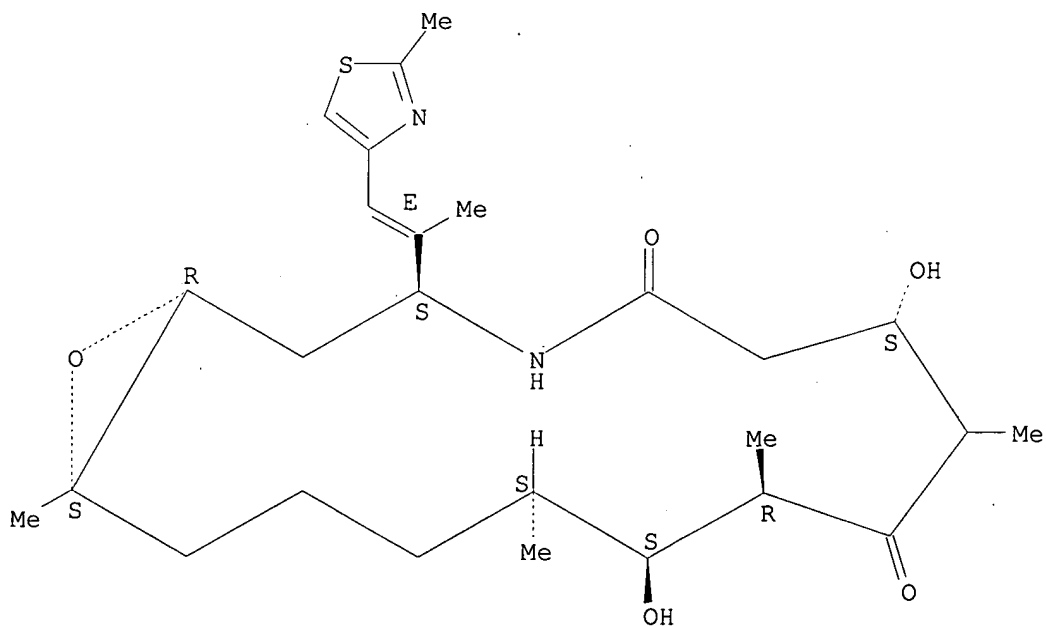


RN 860300-19-2 CAPLUS

CN 17-Oxa-4-azabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-  
8,10,12,16-tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-,  
(1R,3S,7S,10R,11S,12S,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 3-[(1E)-2-[2-(aminomethyl)-4-thiazolyl]-1-methylethenyl]-7,11-dihydroxy-8,10,12,16-tetramethyl-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

[illegible]

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12,16-tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-oxazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

The chemical structure shows a complex molecule with multiple stereocenters and functional groups. Key features include:

- A thiazole ring substituted with a methyl group (Me) and a vinyl group (CH=CH-).
- A chiral center (S) bonded to the vinyl group, a methyl group (Me), and an ether linkage (-O-).
- A chiral center (S) bonded to the ether linkage, a hydroxyl group (OH), and a methyl group (Me).
- A chiral center (R) bonded to a methyl group (Me), a hydroxyl group (OH), and a chiral center (S).
- A chiral center (S) bonded to a methyl group (Me), a hydroxyl group (OH), and a chiral center (R).
- A chiral center (R) bonded to a methyl group (Me), a hydroxyl group (OH), and a chiral center (S).
- A chiral center (S) bonded to a methyl group (Me), a hydroxyl group (OH), and a chiral center (R).

ACCESSION NUMBER: 2004:550960 CAPLUS  
 DOCUMENT NUMBER: 141:106321  
 TITLE: Preparation of epothilone derivatives for use in pharmaceutical compositions as antitumor agents  
 INVENTOR(S): Denni-Dischert, Donatienne; Floersheimer, Andreas; Kuesters, Ernst; Oberer, Lukas; Sedelmeier, Gottfried  
 PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Novartis Pharma G.m.b.H.  
 SOURCE: PCT Int. Appl., 50 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE     | APPLICATION NO.  | DATE       |
|------------------------|--|----------|------------------|------------|
| WO 2004056832          | A2   | 20040708 | WO 2003-EP14747  | 20031222   |
| WO 2004056832          | A3   | 20040910 |                  |            |
| W:                     | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, SY, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW |          |                  |            |
| RW:                    | AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR   |          |                  |            |
| CA 2510620             | A1   | 20040708 | CA 2003-2510620  | 20031222   |
| AU 2003294938          | A1   | 20040714 | AU 2003-294938   | 20031222   |
| EP 1581536             | A2   | 20051005 | EP 2003-785920   | 20031222   |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |          |                  |            |
| BR 2003017693          | A  | 20051122 | BR 2003-17693    | 20031222   |
| CN 1732172             | A  | 20060208 | CN 2003-80107416 | 20031222   |
| JP 2006514025          | T  | 20060427 | JP 2004-561416   | 20031222   |
| US 2006014796          | A1   | 20060119 | US 2005-538200   | 20050609   |
| PRIORITY APPLN. INFO.: |  |          | GB 2002-30024    | A 20021223 |
|                        |  |          | WO 2003-EP14747  | W 20031222 |
| OTHER SOURCE(S):       | MARPAT 141:106321  |          |                  |            |
| GI                     |  |          |                  |            |

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB C4-demethyl-epothilones or C4-bisnor-epothilones, such as I [R1, R7 = H, alkyl; R2 = nitrogen containing heteroaryl; R3 = H, Me; X = O, NR7; Z = O, bond], were prepared via fermentation and organic synthesis for use in pharmaceutical compns. as antitumor agents. Thus, C4-bisnor-epothilone B II (R3 = H) was prepared via an aldol condensation of aldehyde III with in situ disilylated (3R)-3-hydroxy-5-oxoheptanoic acid followed by a desilylation/macrolactonization reaction sequence. Also, C4-demethyl-epothilone B II (R = Me) was prepared directly by a fermentation process. The prepared epothilones were assayed for efficacy against human KB-31 and KB-8511 carcinoma cells. Drug delivery formulations containing the prepared epothilones were presented.

IT 502619-65-0P  
 RL: BPN (Biosynthetic preparation); PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation of epothilone derivs. via fermentation and organic synthesis for use in

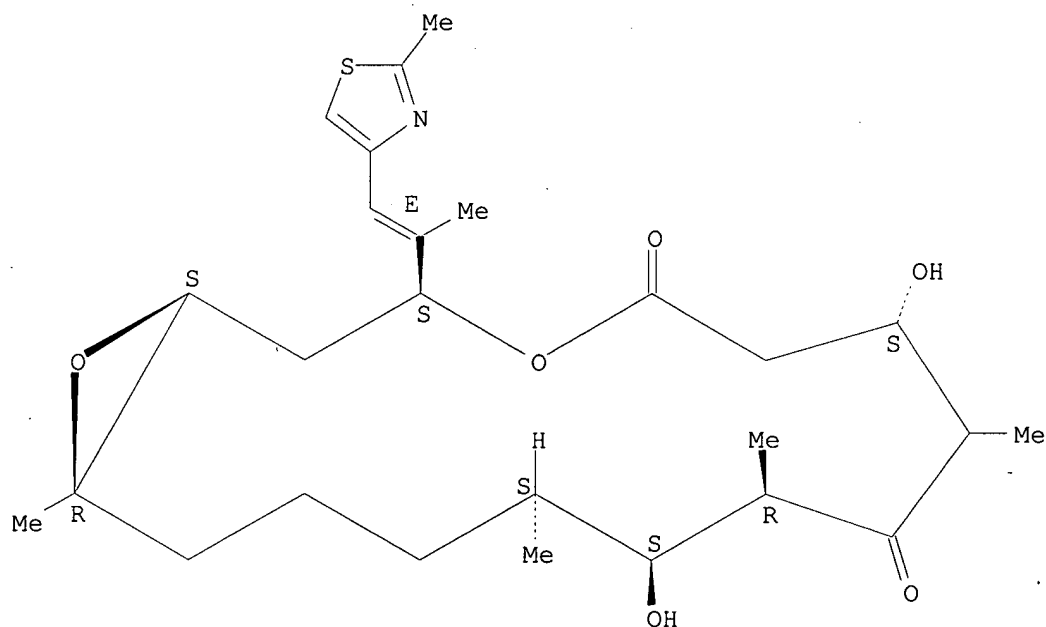
pharmaceutical compns. as antitumor agents)

RN 502619-65-0 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12,16-tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



IT 717917-47-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of epothilone derivs. via fermentation and organic synthesis for use in

pharmaceutical compns. as antitumor agents)

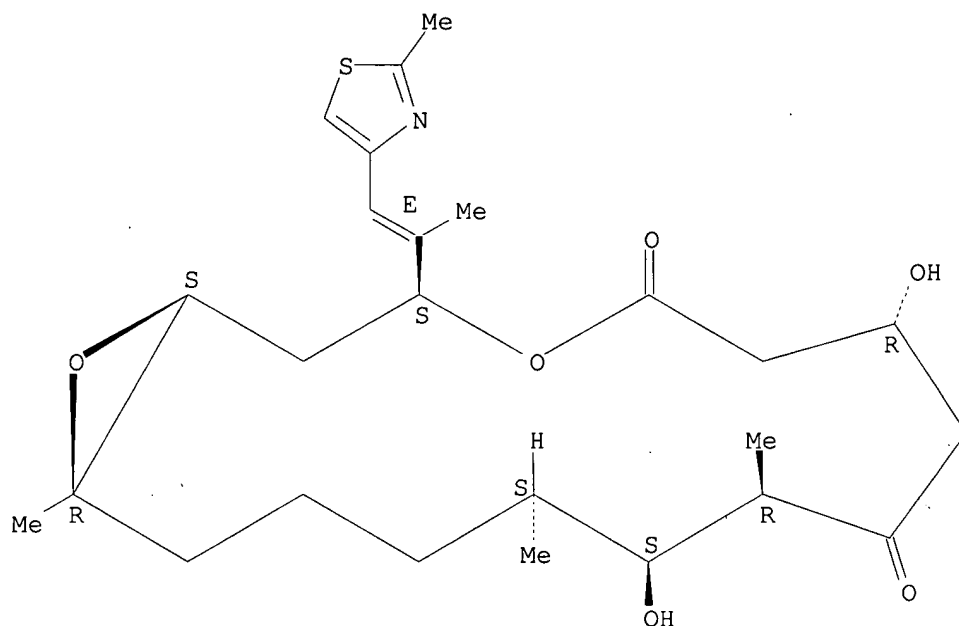
RN 717917-47-0 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-10,12,16-trimethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7R,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.





L4 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:182886 CAPLUS

DOCUMENT NUMBER: 140:217439

TITLE: Synthesis of epothilones for use in pharmaceutical compositions for the treatment of cancer

INVENTOR(S): Danishefsky, Samuel J.; Rivkin, Alexey; Yoshimura, Fumihiko; Gabarda Ortega, Ana Esther; Cho, Young Shin; Chou, Ting-Chao; Dongm, Huajin

PATENT ASSIGNEE(S): Sloan-Kettering Institute for Cancer Research, USA

SOURCE: PCT Int. Appl., 223 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

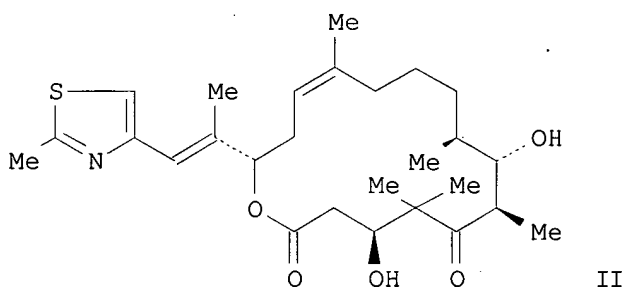
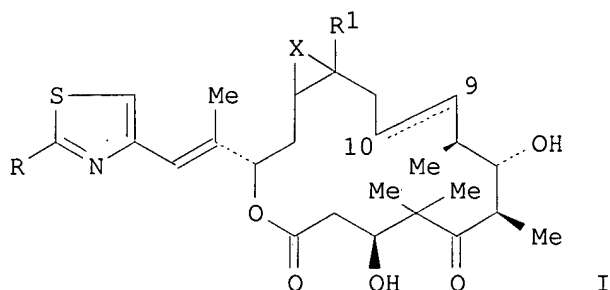
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2004018478   | A2   | 20040304 | WO 2003-US26367 | 20030822 |
| WO 2004018478   | A3   | 20041209 |                 |          |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
| US 2004053995   | A1   | 20040318 | US 2003-402004  | 20030328 |
| US 6921769  | B2   | 20050726 |                 |          |
| US 2004053910   | A1   | 20040318 | US 2003-435408  | 20030509 |
| CA 2496477  | A1   | 20040304 | CA 2003-2496477 | 20030822 |
| AU 2003260002   | A1   | 20040311 | AU 2003-260002  | 20030822 |
| EP 1506203  | A2   | 20050216 | EP 2003-793304  | 20030822 |
| EP 1506203  | B1   | 20070103 |                 |          |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                 |          |

|                        |   |  |                 |            |
|------------------------|---|--|-----------------|------------|
| JP 2006502246          | T | 20060119                               | JP 2005-501774  | 20030822   |
| CN 1759115             | A | 20060412                               | CN 2003-822561  | 20030822   |
| IN 2005KN00462         | A | 20060303                               | IN 2005-KN462   | 20050318   |
| PRIORITY APPLN. INFO.: |   |  | US 2002-405823P | P 20020823 |
|                        |   |  | US 2002-408589P | P 20020906 |
|                        |   |  | US 2002-423129P | P 20021101 |
|                        |   |  | US 2003-456159P | P 20030320 |
|                        |   |  | US 2003-402004  | A 20030328 |
|                        |   |  | US 2003-435408  | A 20030509 |
|                        |   |  | US 2003-496741P | P 20030821 |
|                        |   |  | WO 2003-US26367 | W 20030822 |
| OTHER SOURCE(S):       |   | CASREACT 140:217439; MARPAT 140:217439 |                 |            |
| GI                     |   |  |                 |            |



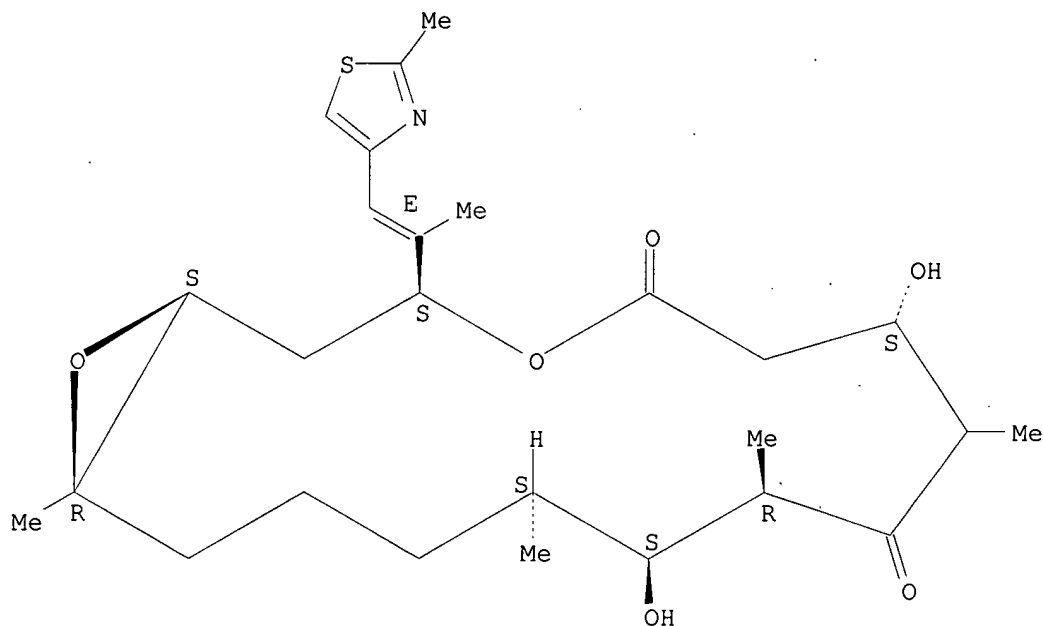
AB Epothilones, such as I [R = Me, CH<sub>2</sub>OH, CH<sub>2</sub>NH<sub>2</sub>, etc.; R<sub>1</sub> = H, Me, CF<sub>3</sub>, etc.; X = O, bond; 9,10-saturated or -unsatd.], were prepared for therapeutic use as antitumor agents. Thus, II was prepared via a multistep synthetic sequence which included an intramol. metathesis reaction to form the macrocyclic ring. The prepared epothilones were assayed for pharmacol. activity by various means which included growth inhibition of CCRF-CEM cells.

IT 502619-65-0  
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (synthesis of epothilones for use in pharmaceutical compns. for the treatment of cancer)

RN 502619-65-0 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12,16-tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:221685 CAPLUS

DOCUMENT NUMBER: 138:255008

TITLE: Synthesis of epothilones for therapeutic use as anticancer agents

INVENTOR(S): Danishefsky, Samuel J.; Biswas, Kaustav; Chapell, Mark; Lin, Hong; Njardarson, Jon T.; Lee, Chulbom; Rivkin, Alexey; Chou, Ting-Chao

PATENT ASSIGNEE(S): Sloan-Kettering Institute for Cancer Research, USA

SOURCE: PCT Int. Appl., 219 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2003022844 | A2   | 20030320 | WO 2002-US28425 | 20020906 |
| WO 2003022844 | A3   | 20040304 |                 |          |
| WO 2003022844 | A9   | 20040415 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

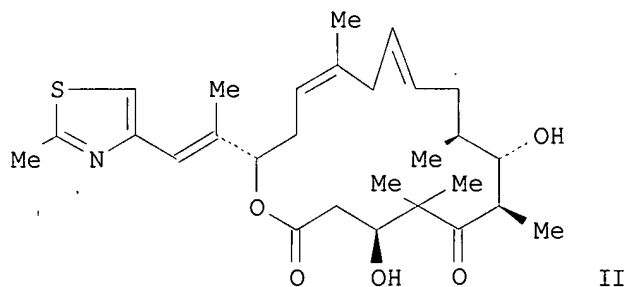
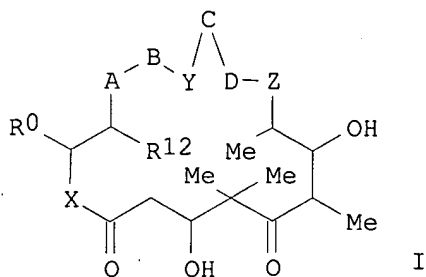
US 2003176368 A1 20030918 US 2002-236135 20020906

PRIORITY APPLN. INFO.: US 2001-317637P P 20010906

US 2001-351576P P 20011026

OTHER SOURCE(S): MARPAT 138:255008

GI



AB Epothilones, such as I [R0 = aryl, heteroaryl, arylalkyl, arylalkenyl, arylalkynyl, etc.; R1, R1', R2, R2' = H, alkyl, haloalkyl, etc.; R3, R3' = H, alkyl, etc.; R12 = H, OH, NH2, halogen, alkoxy, alkylamino, etc.; A-B, C-D = C(R1):C(R2), CR1R1'CR2R2', etc.; X = O, S, CR3R3', NR3; Y = (CH2)m; Z = (CH2)q; m = 0-3, q = 1-3, and m + q = 1-4], were prepared for use in pharmaceutical compns. for the treatment of cancer. Thus, epothilone II was prepared via a multistep synthetic sequence which included an intramol. metathesis macrocyclization reaction using Grubbs' imidazole catalyst. The prepared epothilones were tested for cytotoxicity against a number of cancer cell lines.

IT 502619-65-0P

RL: PAC (Pharmacological activity); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

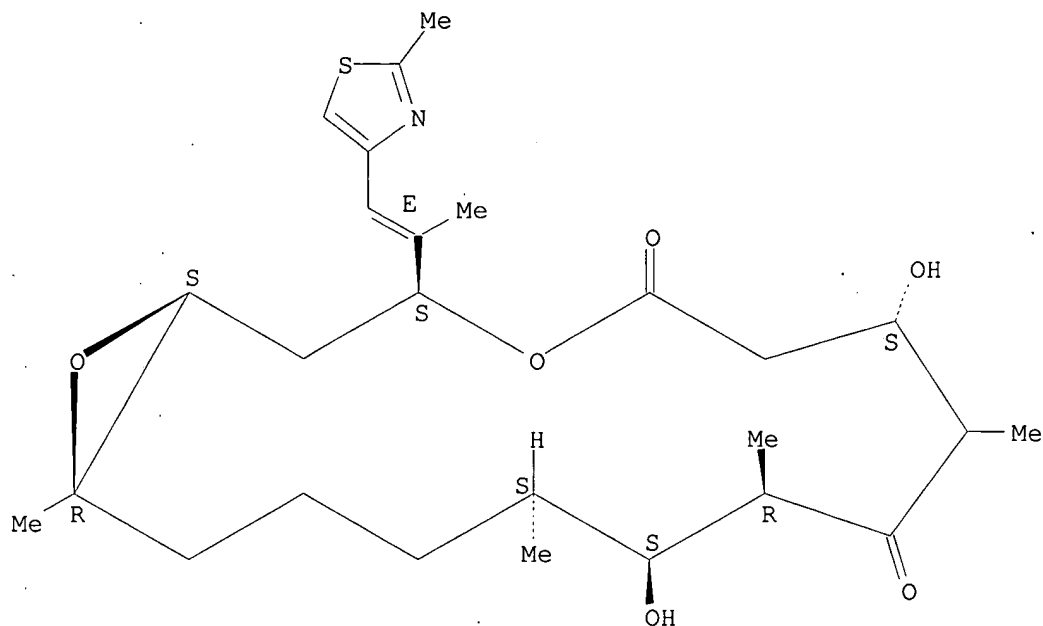
(prepn of epothilones for therapeutic use as anticancer agents)

RN 502619-65-0 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12,16-tetramethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:413810 CAPLUS

DOCUMENT NUMBER: 135:179755

TITLE: New Natural Epothilones from *Sorangium cellulosum*, Strains So ce90/B2 and So ce90/D13: Isolation, Structure Elucidation, and SAR Studies

AUTHOR(S): Hardt, Ingo H.; Steinmetz, Heinrich; Gerth, Klaus; Sasse, F.; Reichenbach, Hans; Hoefle, Gerhard  
CORPORATE SOURCE: Gesellschaft fuer Biotechnologische Forschung mbH, Braunschweig, D-38124, Germany

SOURCE: Journal of Natural Products (2001), 64(7), 847-856  
CODEN: JNPRDF; ISSN: 0163-3864

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In addition to epothilones A (1) and B (2), 37 natural epothilone variants and epothilone-related compds. were isolated from the culture broth of a 700 L fermentation of *Sorangium cellulosum*, strain So ce90/B2. Of these, only the 12,13-desoxyepothilones, epothilone C (14) and D (15), were produced in significant amts. (3-6 mg/L); the 21-hydroxy derivs. and epothilones E (3) and F (4), in low and variable amts. due to further degradation by the producing organism. Most of the other epothilone variants were produced only in 1-100 µg/L amts. The new compds. are very similar in structure to the parent compds. 1, 2 and 14, 15 and are presumably the result of the imperfect selectivity of the biosynthetic enzymes for acetate and propionate. Further, epothilones containing an oxazole moiety (10-13) in the side chain instead of a thiazole as well as ring-expanded 18-membered macrolides, epothilones I (30-35), and a ring contracted 14-membered macrolide, epothilone K (36), were found as very minor metabolites. The mutant strain, So ce90/D13, instead of macrolactones, produced short-chain carboxylic acids 40, 41, and 42 bearing the characteristic thiazole side chain. The structures of the new epothilones were elucidated on the basis of comprehensive NMR and MS data. The new epothilone variants were tested in a cytotoxicity assay with mouse fibroblasts (cell line L929), and structure-activity relationships were established. Several new natural epothilones showed activity comparable to 1 and 2, but in no case exceeded that of 2.

IT 252917-29-6P, Epothilone A1 252917-30-9P, Epothilone A2

RL: BPN (Biosynthetic preparation); PRP (Properties); PUR (Purification or

recovery); BIOL (Biological study); PREP (Preparation)  
(new natural epothilones from Sorangium cellulosum)

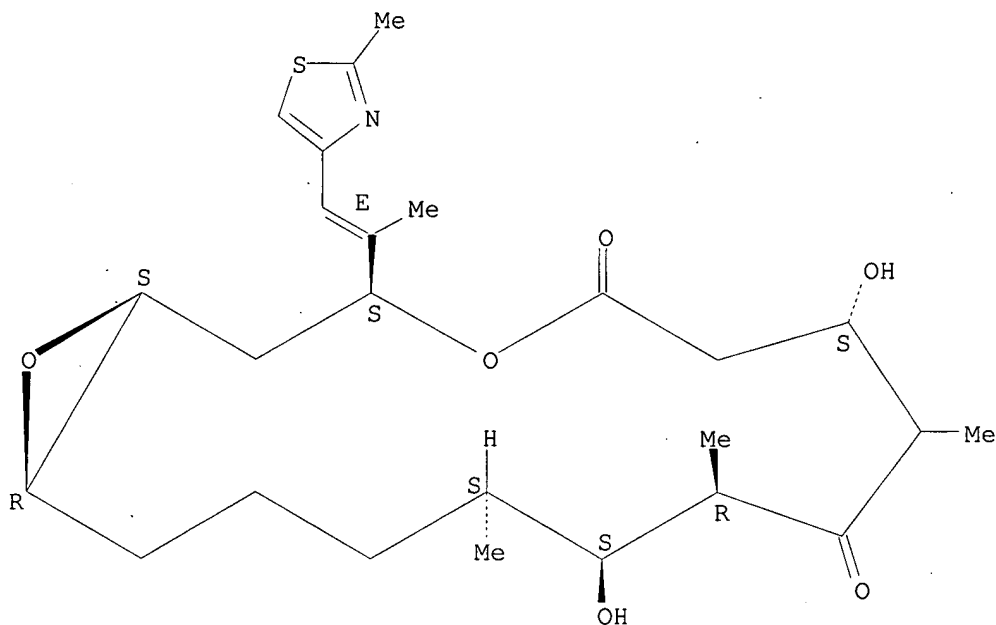
RN 252917-29-6 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12-trimethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.

Currently available stereo shown.



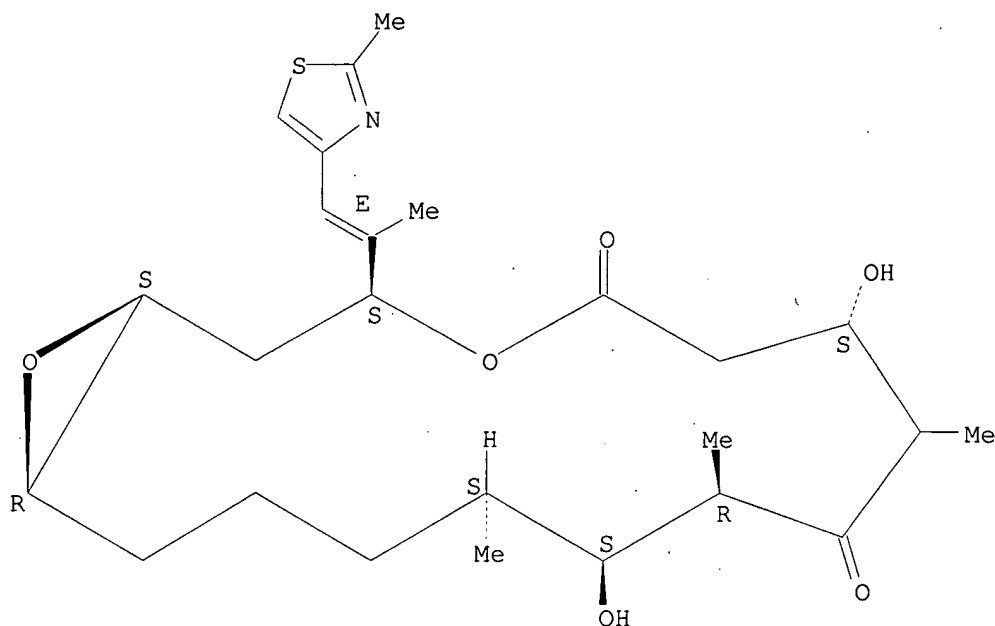
RN 252917-30-9 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12-trimethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

Double bond geometry as shown.

Currently available stereo shown.



REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1999:811249 CAPLUS  
 DOCUMENT NUMBER: 132:49105  
 TITLE: Epothilone minor constituents  
 INVENTOR(S): Hoefle, Gerhard; Reichenbach, Hans; Gerth, Klaus; Hardt, Ingo; Sasse, Florenz; Steinmetz, Heinrich  
 PATENT ASSIGNEE(S): Gesellschaft Fur Biotechnologische Forschung m.b.H. (Gbf), Germany  
 SOURCE: PCT Int. Appl., 36 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|---|------|----------|------------------|----------|
| WO 9965913  | A2   | 19991223 | WO 1999-EP4244   | 19990618 |
| WO 9965913  | A3   | 20000420 |                  |          |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW |      |          |                  |          |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
| DE 19826988   | A1   | 19991223 | DE 1998-19826988 | 19980618 |
| CA 2336189  | A1   | 19991223 | CA 1999-2336189  | 19990618 |
| AU 9948995  | A    | 20000105 | AU 1999-48995    | 19990618 |
| AU 757452   | B2   | 20030220 |                  |          |
| EP 1087975  | A2   | 20010404 | EP 1999-932700   | 19990618 |
| EP 1087975  | B1   | 20030827 |                  |          |
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| JP 2002518397   | T    | 20020625 | JP 2000-554738   | 19990618 |
| EP 1275648  | A1   | 20030115 | EP 2002-22332    | 19990618 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL

|               |    |          |                |          |
|---------------|----|----------|----------------|----------|
| AT 248174     | T  | 20030915 | AT 1999-932700 | 19990618 |
| PT 1087975    | T  | 20040130 | PT 1999-932700 | 19990618 |
| ES 2207249    | T3 | 20040516 | ES 1999-932700 | 19990618 |
| US 6624310    | B1 | 20030923 | US 2001-719932 | 20010321 |
| US 2004049051 | A1 | 20040311 | US 2003-457098 | 20030606 |
| US 2006142584 | A1 | 20060629 | US 2006-354769 | 20060215 |

PRIORITY APPLN. INFO.:

|                  |    |          |
|------------------|----|----------|
| DE 1998-19826988 | A  | 19980618 |
| EP 1999-932700   | A3 | 19990618 |
| WO 1999-EP4244   | W  | 19990618 |
| US 2001-719932   | A3 | 20010321 |
| US 2003-457098   | A1 | 20030606 |

AB The invention relates to compds. which are obtained by fermenting DSM 6773, especially epothilones A1, A2, A8, A9, B10, C1, C2, C3, C4, C5, C6, C7, C8, C9, D1, D2, D5, G1, G2, H1, H2, I1, I2, I3, I4, I5, I6 and K and trans-epothilones C1 and C2.

IT 252917-29-6P, Epothilone A1 252917-30-9P, Epothilone A2

RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(epothilone minor constituents)

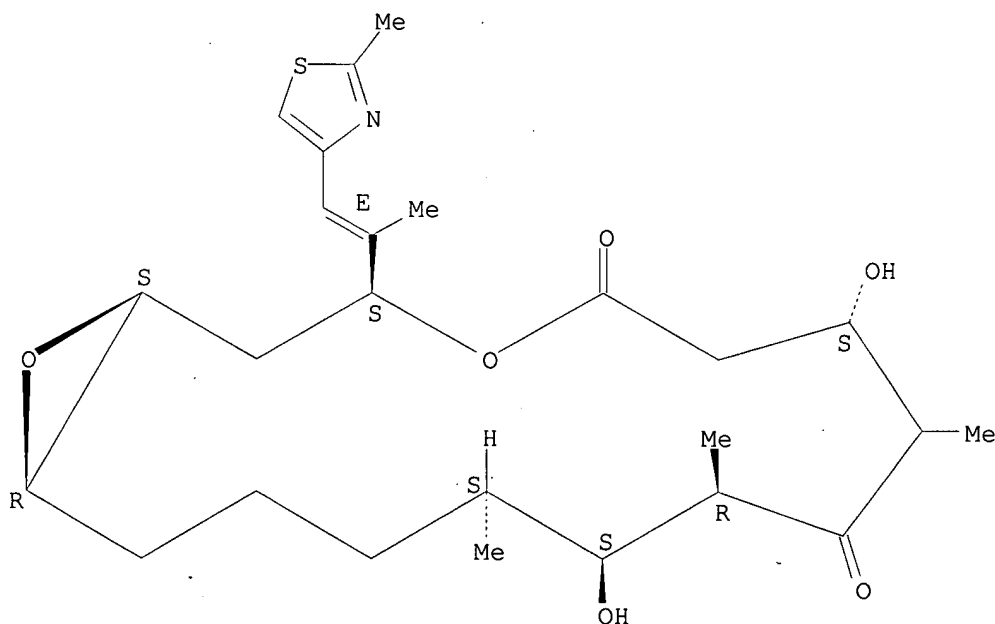
RN 252917-29-6 CAPLUS

CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12-trimethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.

Currently available stereo shown.



RN 252917-30-9 CAPLUS

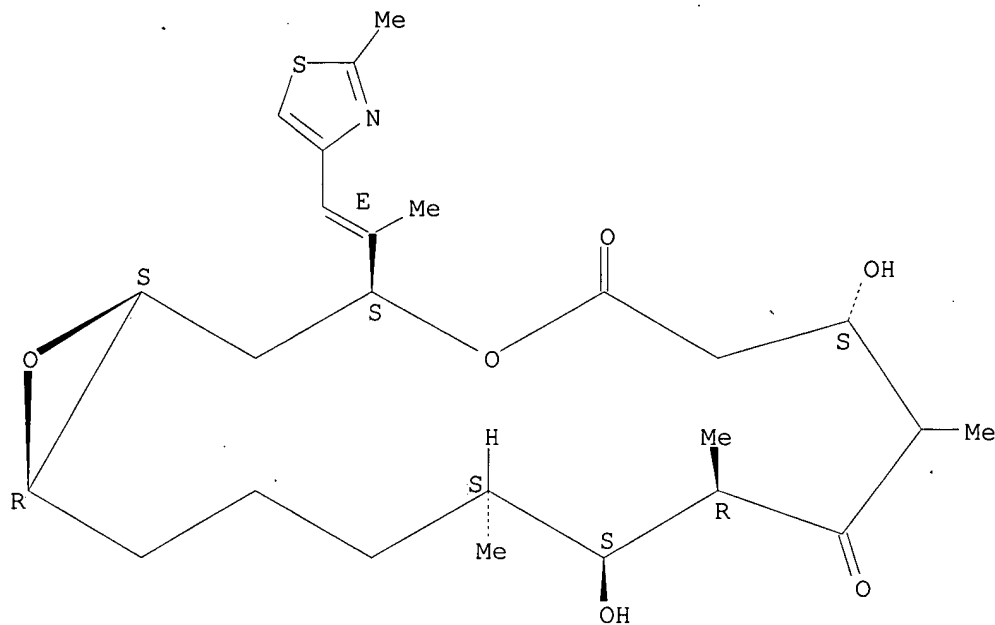
CN 4,17-Dioxabicyclo[14.1.0]heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12-trimethyl-3-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (1S,3S,7S,10R,11S,12S,16R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

Double bond geometry as shown.



Currently available stereo shown.



=> d his

(FILE 'HOME' ENTERED AT 14:18:46 ON 12 FEB 2007)

FILE 'REGISTRY' ENTERED AT 14:19:09 ON 12 FEB 2007

L1 STRUCTURE UPLOADED  
L2 1 S L1  
L3 9 S L1 FULL

FILE 'CAPLUS' ENTERED AT 14:19:46 ON 12 FEB 2007

FILE 'CAPLUS' ENTERED AT 14:19:55 ON 12 FEB 2007  
L4 6 S L3 FULL

=> log y

COST IN U.S. DOLLARS

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| 34.13      | 206.91  |

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| -4.68      | -4.68   |

CA SUBSCRIBER PRICE

STN INTERNATIONAL LOGOFF AT 14:20:39 ON 12 FEB 2007

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTANXR1625

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

|              |    |        |  |
|--------------|----|--------|--|
| NEWS         | 1  |        | Web Page URLs for STN Seminar Schedule - N. America  |
| NEWS         | 2  |        | "Ask CAS" for self-help around the clock   |
| NEWS         | 3  | OCT 23 | The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded   |
| NEWS         | 4  | OCT 30 | CHEMLIST enhanced with new search and display field  |
| NEWS         | 5  | NOV 03 | JAPIO enhanced with IPC 8 features and functionality   |
| NEWS         | 6  | NOV 10 | CA/CAPLUS F-Term thesaurus enhanced  |
| NEWS         | 7  | NOV 10 | STN Express with Discover! free maintenance release Version 8.01c now available  |
| NEWS         | 8  | NOV 20 | CA/CAPLUS to MARPAT accession number crossover limit increased to 50,000   |
| NEWS         | 9  | DEC 01 | CAS REGISTRY updated with new ambiguity codes  |
| NEWS         | 10 | DEC 11 | CAS REGISTRY chemical nomenclature enhanced  |
| NEWS         | 11 | DEC 14 | WPIDS/WPINDEX/WPIX manual codes updated  |
| NEWS         | 12 | DEC 14 | GBFULL and FRFULL enhanced with IPC 8 features and functionality   |
| NEWS         | 13 | DEC 18 | CA/CAPLUS pre-1967 chemical substance index entries enhanced with preparation role   |
| NEWS         | 14 | DEC 18 | CA/CAPLUS patent kind codes updated  |
| NEWS         | 15 | DEC 18 | MARPAT to CA/CAPLUS accession number crossover limit increased to 50,000   |
| NEWS         | 16 | DEC 18 | MEDLINE updated in preparation for 2007 reload   |
| NEWS         | 17 | DEC 27 | CA/CAPLUS enhanced with more pre-1907 records  |
| NEWS         | 18 | JAN 08 | CHEMLIST enhanced with New Zealand Inventory of Chemicals  |
| NEWS         | 19 | JAN 16 | CA/CAPLUS Company Name Thesaurus enhanced and reloaded   |
| NEWS         | 20 | JAN 16 | IPC version 2007.01 thesaurus available on STN   |
| NEWS         | 21 | JAN 16 | WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data   |
| NEWS         | 22 | JAN 22 | CA/CAPLUS updated with revised CAS roles   |
| NEWS         | 23 | JAN 22 | CA/CAPLUS enhanced with patent applications from India   |
| NEWS         | 24 | JAN 29 | PHAR reloaded with new search and display fields   |
| NEWS         | 25 | JAN 29 | CAS Registry Number crossover limit increased to 300,000 in multiple databases   |
| NEWS EXPRESS |    |        | NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006. |
| NEWS HOURS   |    |        | STN Operating Hours Plus Help Desk Availability  |
| NEWS LOGIN   |    |        | Welcome Banner and News Items  |
| NEWS IPC8    |    |        | For general information regarding STN implementation of IPC 8  |
| NEWS X25     |    |        | X.25 communication option no longer available  |

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STRUCTURE FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

DICTIONARY FILE UPDATES: 11 FEB 2007 HIGHEST RN 920490-65-9

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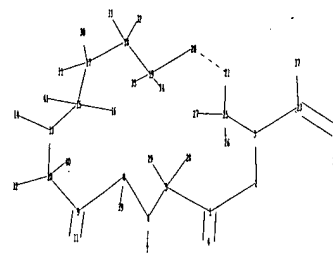
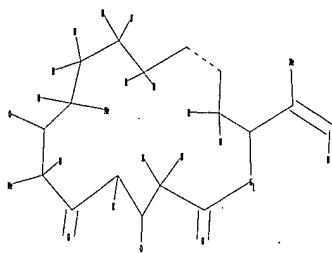
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predicted properties as well as tags indicating availability of  
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on property searching in REGISTRY, refer to:

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Uploading: C:\Program Files\Stnexp\Queries\10538200a.str



chain nodes :  
 4 7 11 12 14 16 23 24 26 27 28 29 30 31 32 33 34 35 36 37 39  
 40 41  
 ring nodes :  
 1 2 3 5 6 8 9 10 13 15 17 18 19 20 21 25  
 chain bonds :  
 1-4 3-23 5-28 5-29 6-7 8-39 9-11 10-12 10-40 13-14 15-16 15-41 17-30  
 17-31 18-32 18-33 19-34 19-35 23-24 23-37 24-36 25-26 25-27  
 ring bonds :  
 1-2 1-5 2-3 3-25 5-6 6-8 8-9 9-10 10-13 13-15 15-17 17-18 18-19 19-20  
 20-21 21-25  
 exact/norm bonds :  
 1-2 1-4 1-5 2-3 3-23 3-25 5-6 5-28 5-29 6-7 6-8 8-9 8-39 9-10 9-11  
 10-12 10-13 10-40 13-14 13-15 15-16 15-17 15-41 17-18 17-30 17-31 18-19  
 18-32 18-33 19-20 19-34 19-35 20-21 21-25 23-24 23-37 24-36 25-26 25-27  
 isolated ring systems :  
 containing 1 :

G1:O,N

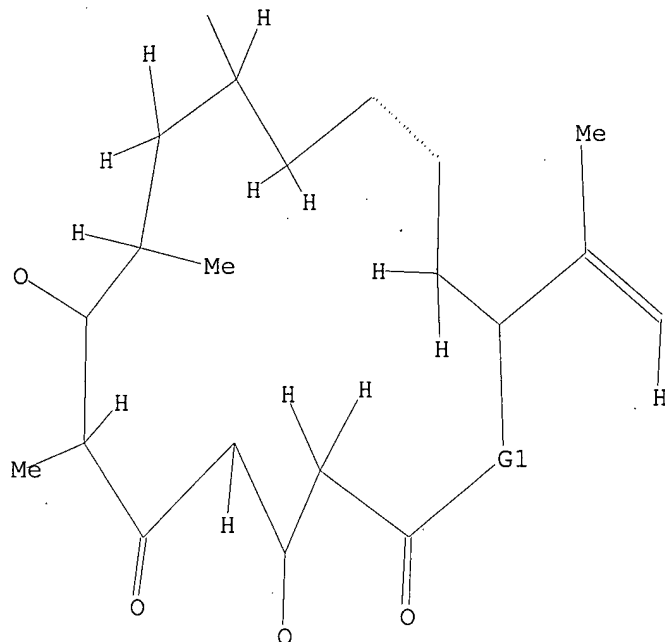
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 20:Atom 21:Atom 23:CLASS 24:CLASS 25:Atom 26:CLASS 27:CLASS 28:CLASS  
 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS  
 37:CLASS 39:CLASS 40:CLASS 41:CLASS

L1 STRUCTURE UPLOADED

=> d 11

L1 HAS NO ANSWERS

L1 STR



G1 O,N

Structure attributes must be viewed using STN Express query preparation.

=> s 11

SAMPLE SEARCH INITIATED 14:04:27 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 2669 TO ITERATE

74.9% PROCESSED 2000 ITERATIONS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 50282 TO 56478  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s 11 full

FULL SEARCH INITIATED 14:04:31 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 54864 TO ITERATE

100.0% PROCESSED 54864 ITERATIONS  
SEARCH TIME: 00.00.01

14 ANSWERS

L3 14 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

FILE 'CAPLUS' ENTERED AT 14:04:36 ON 12 FEB 2007  
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AB Described is a method for production of epothilones derivs. in Myxococcus or Sorangium comprising PKS mutant gene. The invention also relates to the uses of these compds. in preparing medicine composition for treating tumor, inhibiting cell proliferation and growth.

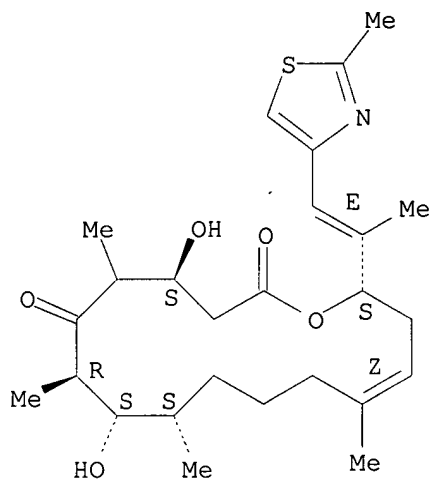
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RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(production of epothilones derivs. in Myxococcus or Sorangium comprising PKS mutant gene)

RN 252917-35-4 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)-

(9CI) (CA INDEX NAME)

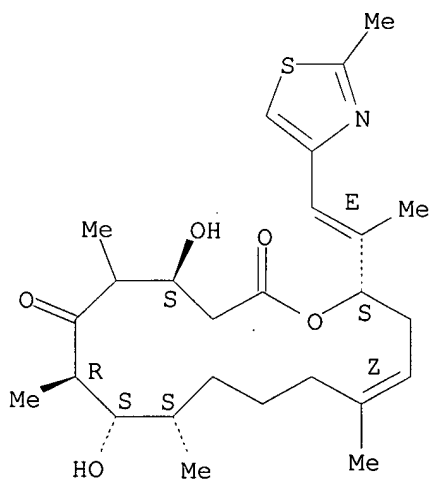
Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



RN 252917-37-6 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-  
[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)-  
(9CI) (CA INDEX NAME)

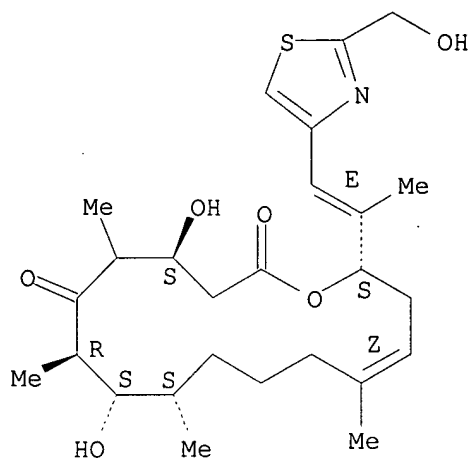
Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



RN 860300-23-8 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-16-[(1E)-2-[2-(  
hydroxymethyl)-4-thiazolyl]-1-methylethenyl]-5,7,9,13-tetramethyl-,  
(4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



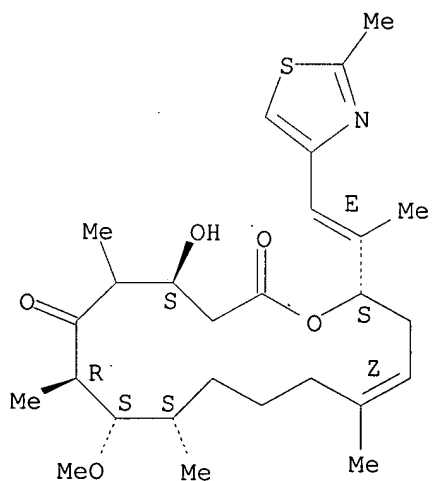
IT 860300-09-0P 860300-14-7P 860300-16-9P  
860300-17-0P 860300-18-1P 860300-20-5P  
860300-26-1P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(production of epothilones derivs. in Myxococcus or Sorangium comprising PKS mutant gene)

RN 860300-09-0 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4-hydroxy-8-methoxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

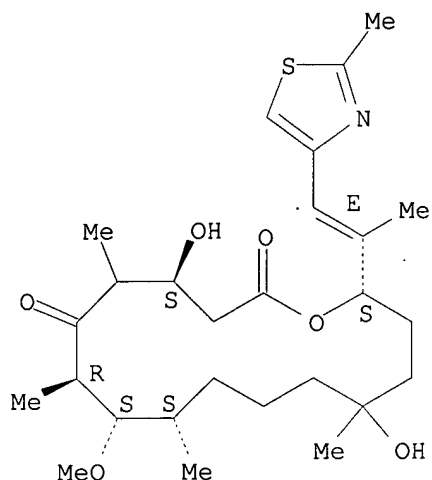


RN 860300-14-7 CAPLUS

CN Oxacyclohexadecane-2,6-dione, 4,13-dihydroxy-8-methoxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,16S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

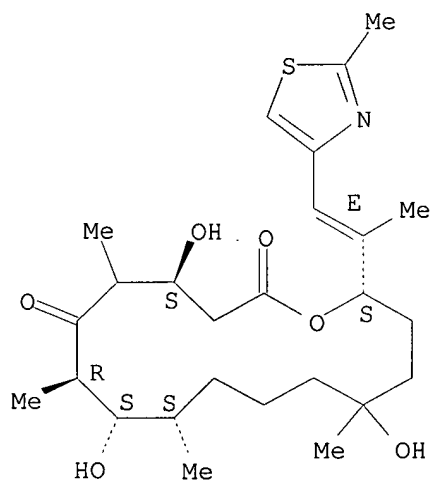




RN 860300-16-9 CAPLUS

CN Oxacyclohexadecane-2,6-dione, 4,8,13-trihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,16S)- (9CI)  
(CA INDEX NAME)

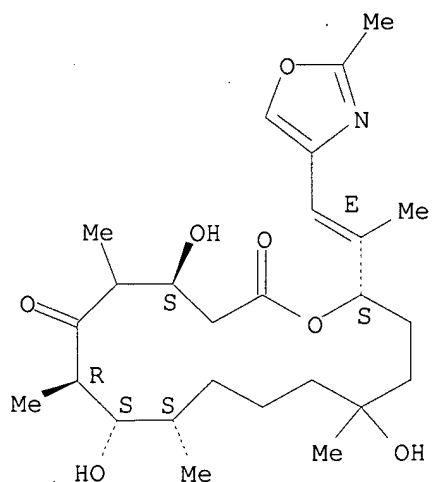
Absolute stereochemistry.  
Double bond geometry as shown.



RN 860300-17-0 CAPLUS

CN Oxacyclohexadecane-2,6-dione, 4,8,13-trihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-oxazolyl)ethenyl]-, (4S,7R,8S,9S,16S)- (9CI)  
(CA INDEX NAME)

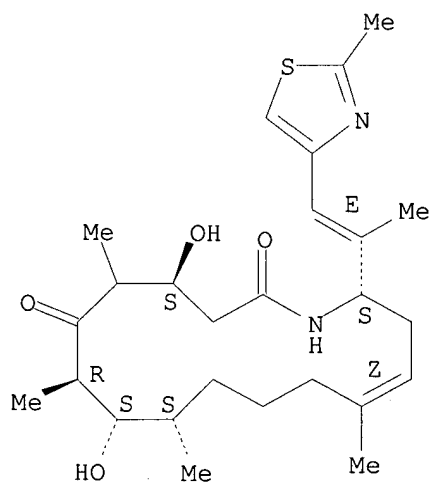
Absolute stereochemistry.  
Double bond geometry as shown.



RN 860300-18-1 CAPLUS

CN Azacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)-(9CI) (CA INDEX NAME)

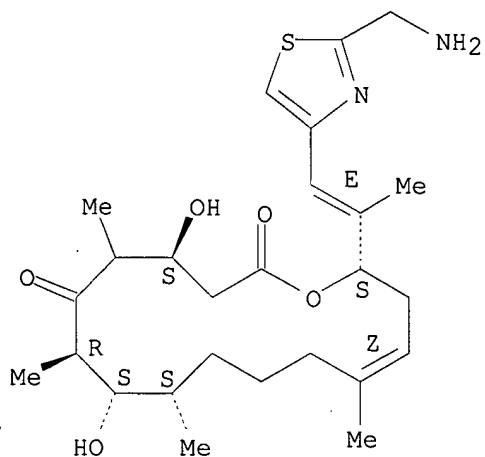
Absolute stereochemistry.  
Double bond geometry as shown.



RN 860300-20-5 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 16-[(1E)-2-[2-(aminomethyl)-4-thiazolyl]-1-methylethenyl]-4,8-dihydroxy-5,7,9,13-tetramethyl-, (4S,7R,8S,9S,13Z,16S)-(9CI) (CA INDEX NAME)

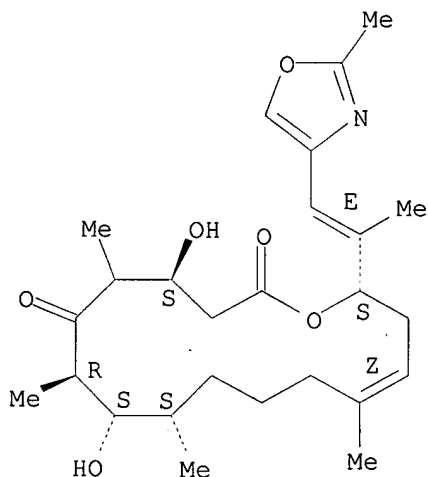
Absolute stereochemistry.  
Double bond geometry as shown.



RN 860300-26-1 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-oxazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:413810 CAPLUS

DOCUMENT NUMBER: 135:179755

TITLE: New Natural Epothilones from *Sorangium cellulosum*, Strains So ce90/B2 and So ce90/D13: Isolation, Structure Elucidation, and SAR Studies

AUTHOR(S): Hardt, Ingo H.; Steinmetz, Heinrich; Gerth, Klaus; Sasse, F.; Reichenbach, Hans; Hoefle, Gerhard

CORPORATE SOURCE: Gesellschaft fuer Biotechnologische Forschung mbH, Braunschweig, D-38124, Germany

SOURCE: Journal of Natural Products (2001), 64(7), 847-856  
CODEN: JNPRDF; ISSN: 0163-3864

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In addition to epothilones A (1) and B (2), 37 natural epothilone variants and epothilone-related compds. were isolated from the culture broth of a 700 L fermentation of *Sorangium cellulosum*, strain So ce90/B2. Of these, only

the 12,13-desoxyepothilones, epothilone C (14) and D (15), were produced in significant amts. (3-6 mg/L); the 21-hydroxy derivs. and epothilones E (3) and F (4), in low and variable amts. due to further degradation by the producing organism. Most of the other epothilone variants were produced only in 1-100 µg/L amts. The new compds. are very similar in structure to the parent compds. 1, 2 and 14, 15 and are presumably the result of the imperfect selectivity of the biosynthetic enzymes for acetate and propionate. Further, epothilones containing an oxazole moiety (10-13) in the side chain instead of a thiazole as well as ring-expanded 18-membered macrolides, epothilones I (30-35), and a ring contracted 14-membered macrolide, epothilone K (36), were found as very minor metabolites. The mutant strain, So ce90/D13, instead of macrolactones, produced short-chain carboxylic acids 40, 41, and 42 bearing the characteristic thiazole side chain. The structures of the new epothilones were elucidated on the basis of comprehensive NMR and MS data. The new epothilone variants were tested in a cytotoxicity assay with mouse fibroblasts (cell line L929), and structure-activity relationships were established. Several new natural epothilones showed activity comparable to 1 and 2, but in no case exceeded that of 2.

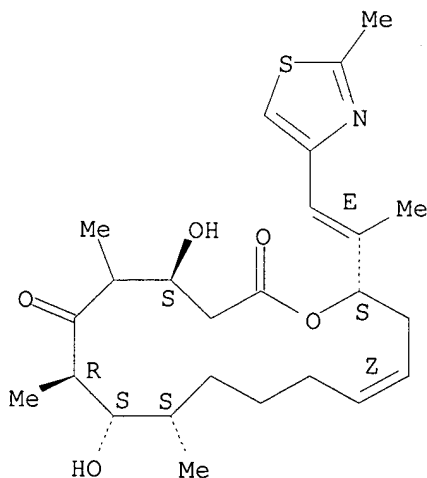
IT 252917-34-3P, Epothilone C1 252917-35-4P, Epothilone D1  
252917-36-5P, Epothilone C2 252917-37-6P, Epothilone D2  
252917-48-9P, trans-Epothilone C1 252917-49-0P,  
trans-Epothilone C2

RL: BPN (Biosynthetic preparation); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)  
(new natural epothilones from *Sorangium cellulosum*)

RN 252917-34-3 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI)  
(CA INDEX NAME)

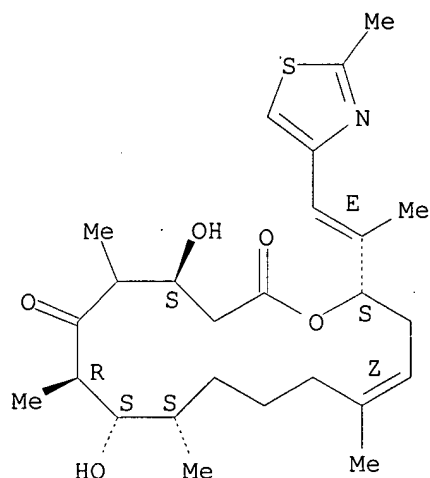
Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



RN 252917-35-4 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



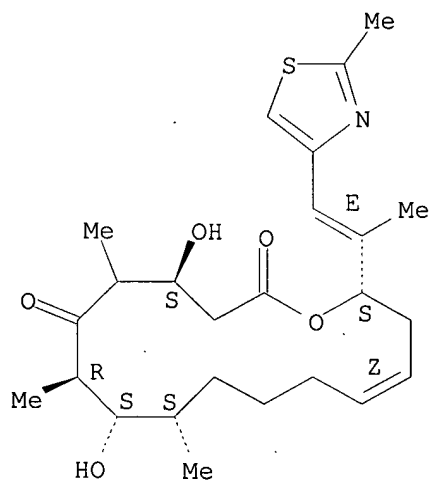
RN 252917-36-5 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.

Currently available stereo shown.



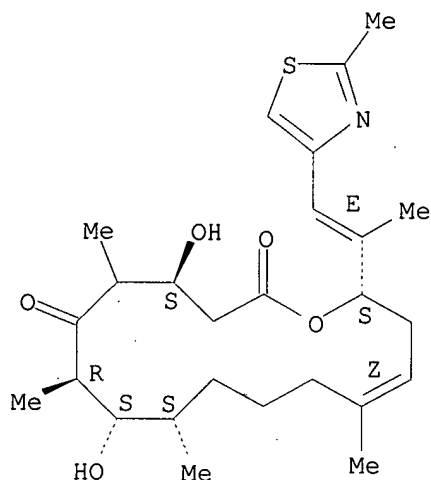
RN 252917-37-6 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.

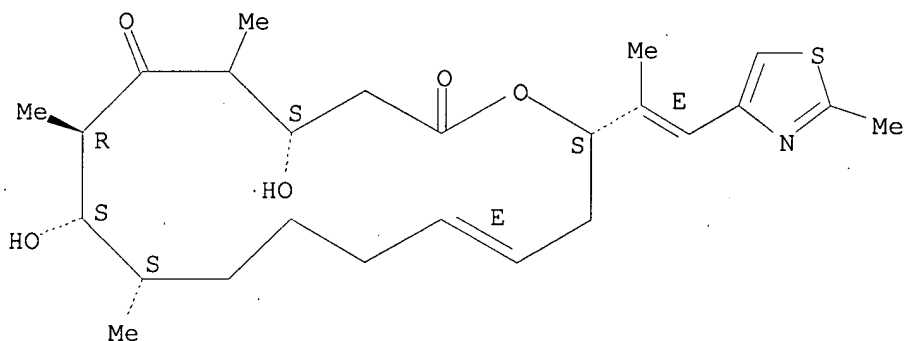
Currently available stereo shown.



RN 252917-48-9 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13E,16S)- (9CI)  
(CA INDEX NAME)

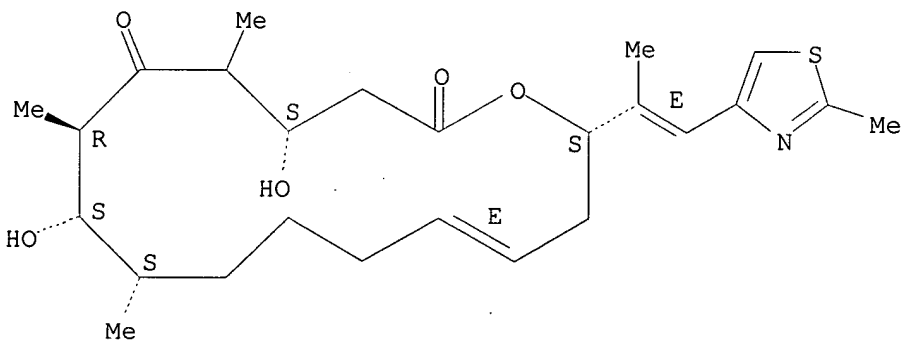
Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



RN 252917-49-0 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13E,16S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1999:811249 CAPLUS  
DOCUMENT NUMBER: 132:49105  
TITLE: Epothilone minor constituents  
INVENTOR(S): Hoefle, Gerhard; Reichenbach, Hans; Gerth, Klaus;  
Hardt, Ingo; Sasse, Florenz; Steinmetz, Heinrich  
PATENT ASSIGNEE(S): Gesellschaft Fur Biotechnologische Forschung m.b.H.  
(Gbf), Germany  
SOURCE: PCT Int. Appl., 36 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE     | APPLICATION NO.  | DATE        |
|------------------------|--|----------|------------------|-------------|
| WO 9965913             | A2   | 19991223 | WO 1999-EP4244   | 19990618    |
| WO 9965913             | A3   | 20000420 |                  |             |
| W:                     | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW |          |                  |             |
| RW:                    | GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                  |             |
| DE 19826988            | A1   | 19991223 | DE 1998-19826988 | 19980618    |
| CA 2336189             | A1   | 19991223 | CA 1999-2336189  | 19990618    |
| AU 9948995             | A  | 20000105 | AU 1999-48995    | 19990618    |
| AU 757452              | B2   | 20030220 |                  |             |
| EP 1087975             | A2   | 20010404 | EP 1999-932700   | 19990618    |
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| JP 2002518397          | T  | 20020625 | JP 2000-554738   | 19990618    |
| EP 1275648             | A1   | 20030115 | EP 2002-22332    | 19990618    |
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| AT 248174              | T  | 20030915 | AT 1999-932700   | 19990618    |
| PT 1087975             | T  | 20040130 | PT 1999-932700   | 19990618    |
| ES 2207249             | T3   | 20040516 | ES 1999-932700   | 19990618    |
| US 6624310             | B1   | 20030923 | US 2001-719932   | 20010321    |
| US 2004049051          | A1   | 20040311 | US 2003-457098   | 20030606    |
| US 2006142584          | A1   | 20060629 | US 2006-354769   | 20060215    |
| PRIORITY APPLN. INFO.: |  |          | DE 1998-19826988 | A 19980618  |
|                        |  |          | EP 1999-932700   | A3 19990618 |
|                        |  |          | WO 1999-EP4244   | W 19990618  |
|                        |  |          | US 2001-719932   | A3 20010321 |
|                        |  |          | US 2003-457098   | A1 20030606 |
| AB                     | The invention relates to compds. which are obtained by fermenting DSM 6773, especially epothilones A1, A2, A8, A9, B10, C1, C2, C3, C4, C5, C6, C7, C8, C9, D1, D2, D5, G1, G2, H1, H2, I1, I2, I3, I4, I5, I6 and K and trans-epothilones C1 and C2.  |          |                  |             |
| IT                     | 252917-34-3P, Epothilone C1 252917-35-4P, Epothilone D1 252917-36-5P, Epothilone C2 252917-37-6P, Epothilone D2 252917-48-9P, trans-Epothilone C1 252917-49-0P, trans-Epothilone C2  |          |                  |             |
|                        | RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence);  |          |                  |             |

PREP (Preparation)

(epothilone minor constituents)

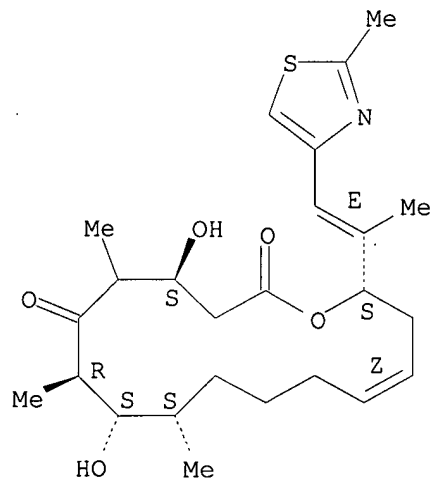
RN 252917-34-3 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.

Currently available stereo shown.



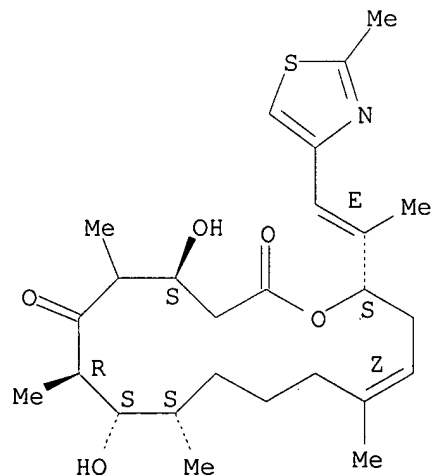
RN 252917-35-4 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.

Currently available stereo shown.



RN 252917-36-5 CAPLUS

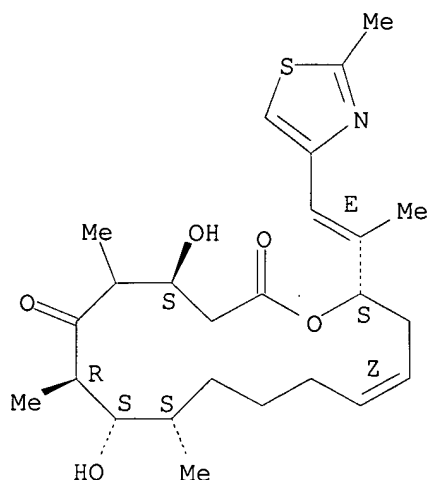
CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

Double bond geometry as shown.



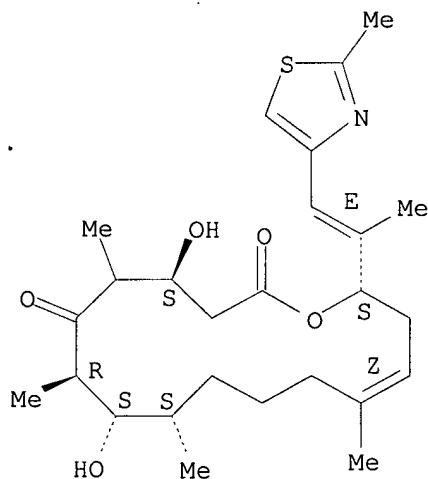
Currently available stereo shown.



RN 252917-37-6 CAPLUS

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9,13-tetramethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

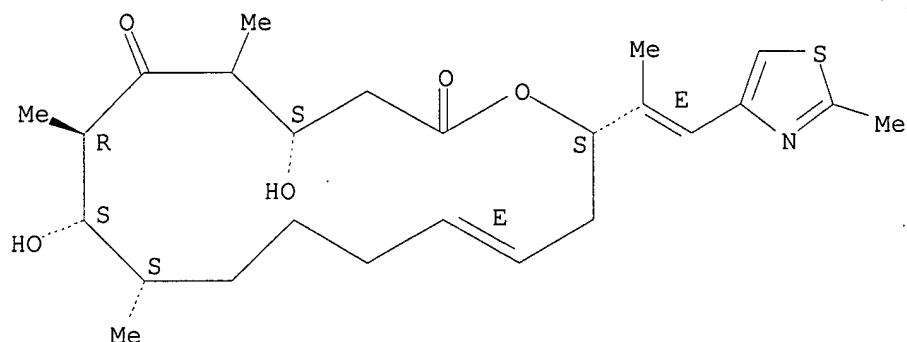
Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



RN 252917-48-9 CAPLUS

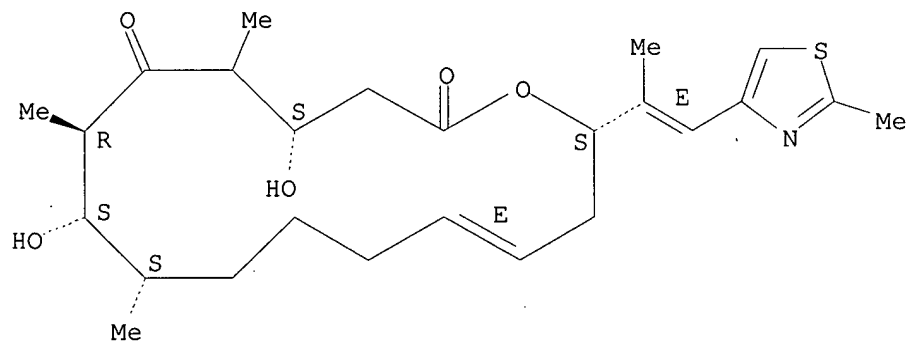
CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13E,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).  
Double bond geometry as shown.  
Currently available stereo shown.



RN 252917-49-0 CAPLUS  
 CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,7,9-trimethyl-16-[(1E)-1-methyl-2-(2-methyl-4-thiazolyl)ethenyl]-, (4S,7R,8S,9S,13E,16S)-(9CI)  
 (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).  
 Double bond geometry as shown.  
 Currently available stereo shown.



=> d his

(FILE 'HOME' ENTERED AT 14:03:26 ON 12 FEB 2007)

FILE 'REGISTRY' ENTERED AT 14:03:59 ON 12 FEB 2007

L1 STRUCTURE UPLOADED  
 L2 0 S L1  
 L3 14 S L1 FULL

FILE 'CAPLUS' ENTERED AT 14:04:36 ON 12 FEB 2007

L4 3 S L3 FULL

=> log y

COST IN U.S. DOLLARS

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| 21.45      | 193.76  |

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| -2.34      | -2.34   |

CA SUBSCRIBER PRICE

STN INTERNATIONAL LOGOFF AT 14:11:37 ON 12 FEB 2007